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EXAMINER	
BONANTO, GEORGE P	

ART UNIT	PAPER NUMBER
2855	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/799,241	BONDHUS ET AL.	
	Examiner	Art Unit	
	George P. Bonanto	2855	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 February 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32,34-41 and 43-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32,34-41 and 43-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *3/12/2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 25 January 2006 has been entered.

Claim Objections

Claims 11 and 32 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Furthermore, claim 32 contains claim element "interface members" which lacks antecedent basis.

Claim 37 is objected to because of the following informalities: claim element "the interface members" found in lines 6-7 and again at 8, and claim element "the interface member" found in lines 10 and again at 13, lack antecedent basis. Claim element "the one or more interface members" should be inserted in each place.

Claim 41 is objected to because of the following informalities: claim element "the interface member" lacks antecedent basis.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3-13, 15, 16, 22-24, 26-29, 31, 34-41, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,272,036 to Van Hoose in view of U.S. Patent No. 6,487,943 to Jansson et al.

As to claim 1, Van Hoose discloses a torque limiting tool comprising an inner handle comprising a tool coupling portion and at least one radially oriented slot (head 64 with adapter 76 and openings 82 and longitudinal grooves 70; Fig. 5) at least one interface member located in the radially oriented slot, the interface member comprising an elongated surface generally oriented along a longitudinal axis of the inner handle (roller 90 and bearing pin 92; Fig. 5) a biasing assembly located in a biasing assembly aperture that provides a longitudinal biasing force to bias the interface member radially outward (actuating pin 98 in longitudinal bore 80 biased by upper deflecting beam 20; Figs. 2 and 3) and an outer handle having an inner surface limiting radial displacement of the interface member (wall 30 of head 26 and rollers 88; Fig. 4) the elongated surface on the interface member and the inner surface of the outer handle comprising an elongated surface area of engagement at least about 0.5 inches long and generally oriented along the longitudinal axis of the inner handle (rollers 90 and 88 when forced together as shown in Fig. 4 define an elongated surface of engagement and the rollers appear to be about 0.5 inches). Van Hoose fails, however, to explicitly disclose that one or more of the inner handle, the outer handle, and the interface member comprises a polymeric material.

Jansson et al. disclose a torque limiting tool comprising an outer handle, and inner handle and interface member, one or more of the inner handle, the outer handle, and the interface member comprising a polymeric material (shank 13 and splined cylinder 28 made of polymer; col. 2, lines 27-28 and col. 3, lines 55-61).

It would have been obvious to one of ordinary skill in the art to modify the torque limiting tool of Van Hoose by making the components out of plastic in order to make the tool water and oil repellant (col. 3, lines 55-61) and in order to limit the friction between engaged surfaces (col. 3, lines 61-63).

As to claim 3, Van Hoose further discloses that the tool coupling portion comprises an outer surface of the inner handle (Fig. 5).

As to claim 4, Van Hoose further discloses a plurality of tools each adapted to releasably engage with the tool coupling portion (col. 3, lines 9-12).

As to claim 5, Van Hoose further discloses that the biasing assembly aperture is connected to the radially oriented slot (Fig. 3).

As to claim 6, Van Hoose further discloses that a proximal end of the biasing assembly aperture comprises a threaded portion (threaded portion of upper deflection beam 20; Fig. 3).

As to claim 7, Van Hoose further discloses that the radially oriented slots comprise at least one angled surface (Figs. 3, 4, and 5).

As to claim 8, Van Hoose further discloses that the interface member comprises at least one surface oriented toward the biasing assembly aperture at an acute angle with respect to the longitudinal axis (pins 92 tapered at 96; Fig. 3).

As to claim 9, Van Hoose further discloses that the elongated surface of the interface member is generally flush with an outer surface of the inner handle when the longitudinal biasing force is removed (Figs. 3 and 4).

As to claim 10, Van Hoose further discloses that the biasing force displaces the elongated surface of the interface member above an outer surface of the inner handle (pin 90 radially outward of outer surface of head 64; Figs. 3 and 4).

As to claim 11, Van Hoose further discloses that the elongated surface is at least about 0.5 inches long (rollers 90 and 88 appear to be about 0.5 inches long; Figs. 3 and 5).

As to claim 12, Van Hoose further discloses that the elongated surface is at least about 1.0 inch long (rollers 90 and 88 appear to be about 1.0 inch long; Figs. 3 and 5).

As to claim 13, Van Hoose further discloses that the elongated surface comprises a curvilinear shape (roller 90; Figs. 4 and 5).

As to claim 15, Van Hoose further discloses that the biasing assembly comprises a spring (upper deflecting beam 20; Figs. 2 and 3).

As to claim 16, Van Hoose further discloses that the biasing force is adjustable (adjustable with both calibrating plate 40; Figs. 1 and 2 and slidable collar 112; Figs. 1 and 2).

As to claim 22, Van Hoose further discloses that the inner surface of the outer handle comprises a plurality of detents (space between rollers 88 where roller 90 is disposed; Fig. 4).

As to claim 23, Van Hoose further discloses that the inner surface of the outer handle comprises a curvilinear surface (Fig. 4).

As to claim 24, Van Hoose further discloses that the inner surface of the outer handle comprises a generally smooth surface (Fig. 4).

As to claim 26, Van Hoose further discloses that the outer handle substantially surrounds the inner handle (Fig. 3).

As to claim 27, Van Hoose further discloses that the interface member is displaced radially inward when a torque applied to the tool coupling portion exceeds a threshold value (col. 3, line 73 to col. 4, line 10).

As to claim 28, Van Hoose further discloses that the inner handle rotates within the outer handle when a torque applied to the tool coupling portion exceeds a threshold value (col. 3, line 73 to col. 4, line 10).

As to claim 29, Van Hoose further discloses that the rotation of the inner handle relative to the outer handle is bi-directional (Fig. 4).

As to claim 31, Van Hoose further discloses an elongated outer handle having a primary opening to a central aperture adapted to receive the inner handle and a cap adapted to retain the inner handle in the outer handle (Fig. 3).

As to claim 32, Jansson et al. further disclose that one or more of the inner handle, the outer handle, and the interface member comprises metal, ceramic, polymeric materials, a composite, or a combination thereof (shank 13 and splined cylinder 28 made of polymer; col. 2, lines 27-28 and col. 3, lines 55-61).

As to claim 34, Van Hoose further discloses that the biasing assembly aperture is located in the inner handle (Fig. 3).

As to claim 35, Van Hoose discloses a torque limiting tool comprising an inner handle comprising a tool coupling portion and at least one radially oriented slot (head 64 with adapter 76 and openings 82 and longitudinal grooves 70; Fig. 5) at least one interface member located in the radially oriented slot, the interface member comprising an elongated surface generally oriented along a longitudinal axis of the inner handle (roller 90 and bearing pin 92; Fig. 5) a

biasing means located in a biasing assembly aperture for providing a longitudinal biasing force to bias the interface member radially outward (actuating pin 98 in longitudinal bore 80 biased by upper deflecting beam 20; Figs. 2 and 3) and an outer handle having an inner surface limiting radial displacement of the interface member (wall 30 of head 26 and rollers 88; Fig. 4) the elongated surface on the interface member and the inner surface of the outer handle comprising an elongated surface area of engagement at least about 0.5 inches long and generally oriented along the longitudinal axis of the inner handle (rollers 90 and 88 when forced together as shown in Fig. 4 define an elongated surface of engagement and the rollers appear to be about 0.5 inches). Van Hoose fails, however, to explicitly disclose that one or more of the inner handle, the outer handle, and the interface member comprises a polymeric material.

Jansson et al. disclose a torque limiting tool comprising an outer handle, and inner handle and interface member, one or more of the inner handle, the outer handle, and the interface member comprising a polymeric material (shank 13 and splined cylinder 28 made of polymer; col. 2, lines 27-28 and col. 3, lines 55-61).

It would have been obvious to one of ordinary skill in the art to modify the torque limiting tool of Van Hoose by making the components out of plastic in order to make the tool water and oil repellant (col. 3, lines 55-61) and in order to limit the friction between engaged surfaces (col. 3, lines 61-63).

As to claim 36, Van Hoose discloses an adjustable torque limiting tool comprising an inner handle comprising a tool coupling portion at a distal end and a biasing assembly aperture at a proximal end, the inner handle including at least one radially oriented slot located between the biasing assembly aperture and the distal end (head 64 with adapter 76, longitudinal axial bore 80,

and openings 82 and longitudinal grooves 70; Fig. 5) at least one interface member located in the radially oriented slot, the interface member comprising an elongated surface generally oriented along a longitudinal axis of the inner handle (roller 90 and bearing pin 92; Fig. 5) a biasing assembly located in the biasing assembly aperture providing a longitudinal biasing force that biases the interface member radially outward (actuating pin 98 in longitudinal bore 80 biased by upper deflecting beam 20; Figs. 2 and 3) and an outer handle having an inner surface limiting radial displacement of the interface member (wall 30 of head 26 and rollers 88; Fig. 4) the elongated surface on the interface member and the inner surface of the outer handle comprising an elongated surface area of engagement at least about 0.5 inches long and generally oriented along the longitudinal axis of the inner handle (rollers 90 and 88 when forced together as shown in Fig. 4 define an elongated surface of engagement and the rollers appear to be about 0.5 inches). Van Hoose fails, however, to explicitly disclose that one or more of the inner handle, the outer handle, and the interface member comprises a polymeric material.

Jansson et al. disclose a torque limiting tool comprising an outer handle, and inner handle and interface member, one or more of the inner handle, the outer handle, and the interface member comprising a polymeric material (shank 13 and splined cylinder 28 made of polymer; col. 2, lines 27-28 and col. 3, lines 55-61).

It would have been obvious to one of ordinary skill in the art to modify the torque limiting tool of Van Hoose by making the components out of plastic in order to make the tool water and oil repellant (col. 3, lines 55-61) and in order to limit the friction between engaged surfaces (col. 3, lines 61-63).

As to claim 37, Van Hoose discloses a method of limiting torque transmission comprising the steps of generating a longitudinal biasing force along a longitudinal axis of an inner handle (upper deflecting beam 20 and calibrating plate generate a biasing force along the longitudinal axis of head 64; Figs. 2, 3, and 5) coupling the longitudinal biasing force to one or more interface members, the longitudinal biasing force biasing a longitudinally oriented surface on the one or more interface members radially outward (roller 90 and bearing pin 92 biased radially outward by the longitudinal biasing force; Fig. 3) restraining the radial movement of the one or more interface members in an outer handle surrounding at least a portion of the inner handle such that the elongated surface on the one or more interface members and the inner surface of the outer handle comprising an elongated surface area of engagement at least about 0.5 inches long and generally oriented along the longitudinal axis of the inner handle (rollers 90 and bearing pins 92 limited by rollers 88 and wall 30 of head 26; Fig. 4 and rollers 90 and 88 appear to be about 0.5 inches long) permitting the inner handle to rotate relative to the outer handle when a torque applied to the inner handle exceeds a threshold level (col. 3, line 73 to col. 4, line 10). Van Hoose fails, however, to explicitly disclose that one or more of the inner handle, the outer handle, and the interface member comprises a polymeric material.

Jansson et al. disclose a torque limiting tool comprising an outer handle, and inner handle and interface member, one or more of the inner handle, the outer handle, and the interface member comprising a polymeric material (shank 13 and splined cylinder 28 made of polymer; col. 2, lines 27-28 and col. 3, lines 55-61).

It would have been obvious to one of ordinary skill in the art to modify the torque limiting tool of Van Hoose by making the components out of plastic in order to make the tool

water and oil repellant (col. 3, lines 55-61) and in order to limit the friction between engaged surfaces (col. 3, lines 61-63).

As to claim 38, Van Hoose further discloses coupling one of a plurality of tools to the inner handle (col. 3, lines 9-12).

As to claim 39, Van Hoose further discloses adjusting the longitudinal biasing force (col. 3, lines 50-72 and col. 4, lines 22-30).

As to claim 40, Van Hoose further discloses displacing the elongated surface above an outer surface of the inner handle (Fig. 4).

As to claim 41, Van Hoose further discloses displacing the one or more interface members radially inward when a torque applied to the inner handle exceeds a threshold value (col. 3, line 73 to col. 4, line 10).

As to claim 43, Van Hoose further discloses that the rotation of the inner handle relative to the outer handle is bi-directional (Fig. 4).

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,272,036 to Van Hoose and U.S. Patent No. 6,487,943 to Jansson et al., as applied to claim 1 above, and further in view of U.S. Patent No. 5,746,298 to Krivec et al.

As to claim 2, Van Hoose and Jansson et al. fail to explicitly disclose that the tool coupling portion comprises a tool receiving aperture extending along the longitudinal axis of the inner handle.

Krivec et al. disclose a torque limiting tool comprising a tool coupling portion that comprises a tool receiving aperture extending along a longitudinal axis of the inner handle (driver shank 65; Fig. 3 in square socket 38; Fig. 1).

It would have been obvious to one of ordinary skill in the art to modify the torque limiting tool of Van Hoose, including polymeric components as taught by Jansson et al., by including the tool receiving aperture of Krivec et al. in order to allow the tool to be used with an assortment of attachments, such as driver shanks of various lengths or functions (e.g. flexible, angled, or non-marring).

Claims 14, 25, 30, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,272,036 to Van Hoose and U.S. Patent No. 6,487,943 to Jansson et al., as applied to claims 1 and 37 above, and further in view of U.S. Patent No. 6,357,538 to Tibbitts.

As to claim 14, Van Hoose and Jansson et al. fail to explicitly disclose that the elongated surface comprises a planar surface.

Tibbitts discloses a torque limiting tool comprising an interface member having an elongated surface that comprises a planar surface (retaining member 120; Figs. 3 and 4).

It would have been obvious to one of ordinary skill in the art to modify the torque limiting tool of Van Hoose, including polymeric components as taught by Jansson et al., by using planar interface members of Tibbitts in order to provide a sliding surface between the interface member and a recess on the outer handle (Tibbitts; col. 8, lines 45-50).

As to claim 25, Van Hoose fails to explicitly disclose that the inner surface of the outer handle comprises an asymmetrical structure.

Tibbitts discloses that the inner surface of the outer handle has an asymmetrical structure (recess 124 is not symmetrical about a radial line).

It would have been obvious to one of ordinary skill in the art to modify the torque limiting tool of Van Hoose, including polymeric components as taught by Jansson et al., by using

the asymmetrical recesses of Tibbitts in order to provide one-way ratchet-type torque-limiting to the tool (Tibbitts; col. 5, line 14).

As to claim 30, Tibbitts further discloses that a torque applied to the inner handle in a first direction that exceeds a threshold value causes the inner handle to rotate in the first direction within the outer handle (for example, clockwise torque applied to tool as shown in Fig. 4) and a torque applied to the inner handle in a second direction that exceeds the threshold value does not substantially rotate the inner handle within the outer handle (for example counter-clockwise torque applied to tool as shown in Fig. 4).

As to claim 44, Van Hoose fails to explicitly disclose applying a torque to the inner handle in a first direction that exceeds a threshold value so that the inner handle rotates within the outer handle in the first direction and applying a torque to the inner handle in a second direction that exceeds the threshold value without permitting the inner handle to substantially rotate in the second direction within the outer handle.

Tibbitts discloses applying a torque to the inner handle in a first direction that exceeds a threshold value so that the inner handle rotates within the outer handle in the first direction (for example, clockwise torque applied to tool as shown in Fig. 4) and applying a torque to the inner handle in a second direction that exceeds the threshold value without permitting the inner handle to substantially rotate in the second direction within the outer handle (for example counter-clockwise torque applied to tool as shown in Fig. 4).

It would have been obvious to one of ordinary skill in the art to modify the torque limiting tool of Van Hoose, including polymeric components as taught by Jansson et al., by

including the asymmetrical interface members of Tibbitts and applying the first and second torques in order to achieve one-way ratchet-type torque limiting (Tibbitts; col. 5, line 14).

Claims 17-21, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,272,036 to Van Hoose and U.S. Patent No. 6,487,943 to Jansson et al., as applied to claims 1 and 37 above, and further in view of U.S. Patent No. 2,797,564 to Bonneau et al.

As to claim 17, Van Hoose further discloses that the biasing assembly comprises a biasing member comprising a leading edge engaged with the interface member (actuating pin 98; Fig. 3) and a retainer engages with a proximal end of the inner handle (disc cover 110, calibrating plate 40 with screw shank 42 and upper deflecting beam 20; Fig. 3). Van Hoose and Jansson et al. fail to explicitly disclose that a spring is compressively interposed between the biasing member and the retainer.

Bonneau et al. disclose a torque limiting tool comprising a spring compressively interposed between a biasing member and a retainer (Fig. 2).

It would have been obvious to one of ordinary skill in the art to modify the torque limiting tool of Van Hoose, including polymeric components as taught by Jansson et al., by using the spring of Bonneau et al. interposed between the biasing member and the retainer in order to make the biasing force adjustable by changing one spring for another with a different spring constant (Jansson et al.; col. 4, lines 19-23 and col. 3, lines 9-15).

As to claim 18, Van Hoose further discloses that the leading edge of the biasing member forms an acute angle with respect to the longitudinal axis (Fig. 3).

As to claim 19, Van Hoose further discloses that the biasing member is slidably engaged with the biasing assembly aperture (Fig. 3).

As to claim 20, Van Hoose further discloses that the retainer is threadably engaged with a proximal end of the inner handle (Fig. 3 where threaded portion of upper deflecting beam 20 is construed as part of the inner handle).

As to claim 21, Van Hoose further discloses that the location of the retainer relative to a proximal end of the inner handle is adjustable (Fig. 3).

As to claim 45, Van Hoose fails to explicitly disclose a spring that provides the longitudinal biasing force disposed in the inner handle.

Bonneau et al. disclose a torque limiting tool comprising a spring compressively interposed between a biasing member and a retainer (Fig. 2).

Jansson et al. disclose removing a spring that provides a longitudinal biasing force from the inner handle and inserting a different spring having a different spring constant into the inner handle (col. 4, lines 19-23 and col. 3, lines 9-15).

It would have been obvious to one of ordinary skill in the art to modify the torque limiting tool of Van Hoose, including polymeric components as taught by Jansson et al., by using the spring of Bonneau et al. interposed between the biasing member and the retainer in order to make the biasing force adjustable by changing one spring for another with a different spring constant as taught by Jansson et al.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George P. Bonanto whose telephone number is (571) 272-2182. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GPB
2 March 2006

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